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**Nikolai Saveliev\*** ([saveliev@math.tulane.edu](mailto:saveliev@math.tulane.edu)), Department of Mathematics, Tulane University, New Orleans, LA 70118. *Homology cobordisms of graph homology 3-spheres.*

Recent major progress in study of the homology cobordism group of homology 3-spheres is related to the work of Fukumoto, Furuta, and Ue on the  $W$ -invariant arising from an orbifold extension of the 10/8-theorem of Furuta. We identify the  $W$ -invariant with the invariant of Neumann and Siebenmann for all graph homology spheres. This leads to proving that all Seifert fibered and some classes of graph homology spheres with non-trivial Rohlin invariant have infinite order in the homology cobordism group. (Received September 27, 2000)